

THE SILVER INSTITUTE LETTER

WORLDWIDE INFORMATION ON SILVER

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MEXICAN SILVER CERTIFICATES SOLD OUT

On September 24, Mexico offered and sold four million troy ounces of newly mined silver—or five percent of its annual production—in the form of **silver certificates**, “**Certificados Plata**” or **CEPLATAs**. Each certificate has a value of 100 troy ounces of “good delivery” 99.9% pure silver.

The CEPLATAs were issued and guaranteed by a trusteeship headed by the official bank, **Banco de México**. The other three trustees: **Banca Cremi**, and two of Mexico’s largest silver mining firms, **Industrial Minera México** and **Met Mex-Peñoles** are members of The Silver Institute.

The four million ounces of silver backing the CEPLATAs have been deposited in the Banca Cremi, Juarez 4, Mexico City 06050, México according to Hermilo Lopez Coello, Director of this bank’s Metals and Minerals Division. He added, “Because of the dramatic success of this relatively small issue of CEPLATAs, the trusteeship is studying the possibility of coming out with new and larger issues of silver certificates in the very near future.”

The Commercial Director of Industrial Minera México, Juan Sanchez Navarro R., said that although silver bars and coins have always attracted the Mexican public, the secure storage of large quantities of physical silver acted as a brake on any large scale Mexican silver investment activity.

Now, he continued, the CEPLATAs enable both Mexican and foreign investors to invest in silver in Mexico without having to worry about its physical security. And when they want to, investors can either exchange their CEPLATAs for physical silver or sell them. The public can buy or sell them at a price based on the international market spot price at the time of the transaction at all brokerage houses and participating banks in Mexico.

The Mexican government is encouraging investment in CEPLATAs by giving them favored tax status. In fact, in terms of taxes, the CEPLATA is reported to be the Mexican stock exchange’s most attractive investment product.

The Silver Institute’s Vice President for Latin America and President of another major Mexican mining firm, **Frisco, S.A. de C.V.**, Jorge Ordoñez, said that this is a very good measure because it shows that the government is definitely interested in promoting private holding of silver and in creating a new demand for silver; the CEPLATAs are available to investors of all nationalities, and they are freely convertible into physical silver.

SILVER MINES TO PROMOTE SILVER CONSUMER PRODUCTS

Six of the most important North American silver mining firms will plan and provide initial financing for a four-year campaign to expand the market for silver consumer and investment products such as silverware, jewelry and bullion coins.

The projected campaign calls for an annual expenditure of \$2 million dollars. The six silver producing members of The Silver Institute that have announced their willingness to finance this silver promotion campaign through a 3-cent levy per troy ounce of silver produced are: **ASARCO Inc.**, **Callahan Mining Corp.**, **Coeur d’Alene Mines Corp.**, **Hecla Mining Co.**, **Noranda Sales Corp.** and **Sunshine Mining Company**. They hope other firms will support this program.

These silver producers recently selected an advertising firm, **DDB Needham World-wide**, to carry out a four-month market survey to assess the current image of silver and locate concentrations of potential silver consumers so as to fine-tune the focus of future advertising and marketing activities.



M. Mancera, Banco de México (left) and J. Corredor, Banca Cremi (right) sign CEPLATA trusteeship papers.

GREATER DEMAND SPARKS INCREASED SILVER MINE PRODUCTION

U.S. silver production fell from 39.4 million ounces in 1985 to 34.2 million ounces in 1986, but increased demand and the firming market for silver have enabled many closed mines to restart. Now, preliminary figures indicate that U.S. silver production will increase to 43.2 million troy ounces in 1987 according to projections in The Silver Institute's recently published annual *Mine Production of Silver 1986-1990* report.

Looking at the world, global silver mine production was flat in 1986 with production moving only slightly upward from 430.2 million troy ounces in 1985 to 431.6 million in 1986. For 1987, The Silver Institute report estimates that world mine production of silver will increase to 456.7 million ounces.

The projected ranking of the world's top ten silver producers for 1987 is as follows: Mexico, Peru, USSR, Canada, USA, Australia, Poland, Chile, Japan and North Korea.

Mine Production of Silver 1986-1990 was prepared with the participation of 235 mining entities throughout the world. They provided the Institute with the information and projections on mine production of silver in all of the 57 silver mining countries. This unique 11-page report is available from The Silver Institute for *only* US \$25 (outside Canada, Mexico and the USA, add US \$3.00 for airmail postage and handling).

BLACK AND WHITE PHOTOGRAPHY USED OVER 8,000,000 OUNCES OF SILVER

The increased speed and sharpness of silvered T-Max films and the advent of new, easy-to-use 35mm cameras has expanded the use of 35mm photography from the domain of the advanced amateurs and professionals, to the general public.

The result? Over 6 billion black and white photographs—using some 8.3 million troy ounces of silver—were taken during 1986.

"The new black and white films open a whole new range of creative possibilities for the photographer," explained Bob Spies, director of operations development for Kodak Processing Laboratories. "There are things you can do with black and white in terms of tonality and mood that you just can't do with color or electronic imaging."

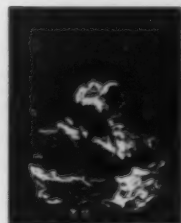
But, faced with the competition of electronic photography, what is the future of silver-halide photography? "For the average family, silver-halide photography will continue to be an important technology for capturing and saving memories in the year 2000," said Dr. Zygmunt Switkowski of Kodak's Photographic Products Group.

He attributed Kodak's expectations for continued growth in the number of silver halide photo exposures to: increased camera ownership worldwide, ongoing innovations in cameras and films, the overall convenience of conventional photography and the continuing sophistication of the photo-finishing industry. He added, "Electronic images are not hard-copy prints, and most never will be."

SILVER CHRISTMAS FORECAST

From New York City to Dallas to San Francisco, both manufacturers and retailers are forecasting a "Silver Christmas"—with a very visible resurgence of sterling silver jewelry and other sterling silver gifts for every pocketbook and for every taste.

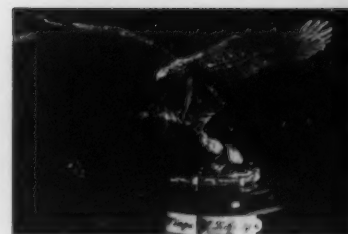
Confirming its belief that sterling silver possesses an inherent beauty which lends a cool brilliance to **Tiffany & Co., N.Y.**, products, its Winter "blue book" is filled with sterling silver designer jewelry, golf clubs, Christmas ornaments, knives, picture frames, perfume flasks, baby cups and many other silver items priced from \$28. **To order a gift or the Winter catalog, please call (800) 526-0649.**



The **Neiman-Marcus** Christmas catalog shows an attractive display of sterling silver designer jewelry and among its "BEST" gifts is a large sterling silver designer belt buckle with two racing horseheads for \$1,360.

Also in Dallas, **Sunshine Bullion Co.** now includes sterling silver statuettes—in addition to a complete line of sterling silver jewelry, medallions and other gift items—in its Christmas Gift Catalog. **It can be ordered by calling (800) 274-5837.**

Award-winning artist, James Pounder, and Sunshine combined efforts to produce a limited edition of 50 numbered statuettes, "Wings of Liberty," portraying an eagle on a branch (*pictured*), poised for take off. It weighs seven ounces and is about four inches high. It is priced at \$395.



Sunshine and famed artist, Maggie Murphy, have produced what promises to be an all-time favorite group of smaller, sterling silver baby animal sculptures, called "**Precious Playmates.**" Each statuette in this group retails for \$49.50; included are charming renderings of a fawn, tiny fledgling bird (*pictured*), frisky penguin, Koala, tiger cub, bunny, duckling and others. And **Cazenovia Abroad (315) 655-3433** offers a handmade sterling silver reindeer pulling an old fashioned sleigh (*pictured*) for only \$1,250. Truly tomorrow's heirloom!

But for the unusual gift, San Francisco's 126-year-old **Gump's** specialty store will provide the animal-loving Christmas shopper with a small, extremely realistic sterling silver gorilla by Buccellati for only \$1,950.

1987 AVERAGE SILVER PRICE 28% ABOVE 1986

1987 Silver Prices

1987 to Date	High 11.25	Low 5.35	Average 6.98
Sep. 87	8.08	7.22	7.61
Aug. 87	8.80	7.23	7.81
Jul. 87	8.30	7.16	7.72
Jun. 87	8.09	6.75	7.43
May. 87	9.52	7.35	8.44
Apr. 87	11.25	6.23	7.36
Mar. 87	6.39	5.41	5.43
Feb. 87	5.54	5.37	5.49
Jan. 87	5.70	5.35	5.54

COMEX

Annual Silver Prices 1977-1986

Year	High	Low	Average
1986	6.19	4.87	5.46
1985	6.73	5.57	6.14
1984	10.03	6.26	8.14
1983	14.74	8.34	11.44
1982	11.21	4.88	7.94
1981	16.45	7.95	10.51
1980	48.00	10.80	20.63
1979	28.00	5.96	11.09
1978	6.29	4.82	5.40
1977	4.96	4.30	4.62

HANDY & HARMAN

As shown in the tables at left, the 1987 Average silver price to date was \$6.98 as of the end of September. This is 28% above the 1986 Average price of \$5.46.

During the August-September 1987 period silver continued as one of the top two leading gainers on *USA Today's* "Key Indicators" list.

"NEW SILVER TECHNOLOGY" PROVIDES INDUSTRY WITH MONTHLY UPDATES

During the past year, *New Silver Technology (NST)* has provided its subscribers with: valuable monthly listings of *all* papers and patents on silver; ten one-page summaries of the ten most important developments in silver technology each month; 100 digests of other patents and papers; and an easy-to-order system for obtaining complete papers or patents on selected subjects.

NST reported on a new silver photocell that can generate 200 volts, providing isolated areas with enough power to supply the area's needs for refrigeration, air conditioning and light; use of silver brazing for ceramic pads have the potential for doubling automotive engine life; and many other new uses of silver in the aerospace, contacts, batteries, automotive, optical, photographic, communications, bio-medical and other industries. *NST* has proven to be the least expensive way of keeping up-to-date on the most important aspects of silver technology.

Don't miss another issue of *NST*. Send in your subscription order and check today!

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COINAGE PROGRAMS REDUCE THE U.S. SILVER STOCKPILE

The U.S. silver coin programs, including the Silver Eagle bullion coin and the silver Constitution coin have reduced the U.S. National Defense Stockpile from 136,005,707 troy ounces in March, 1986, to 115,181,707 troy ounces as of August 31, 1987. During this period, the U.S. Treasury drew 16,324,000 troy ounces for the U.S. coinage programs.

LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of 999 Silver by All Known Refiners in the United States.

	TROY OUNCES		MILLION TROY OUNCES		
	August 1987	July 1987	Jan-Aug 1987	Jan-Aug 1986	Full Year 1986
THESE REFINERS' PRODUCTION, BY SOURCE					
	MONTHLY RATE				
From Primary (ores & concentrates)	3,623,608	3,495,368	3.3	2.8	2.9
From Coins	0	0	0.0	0.0	0.0
From Old Scrap (used photo film & other products)	1,204,643	2,750,313	2.3	2.3	2.2
From New Scrap (in-plant clippings, waste)*	2,902,631	2,531,267	2.2	2.0	2.4
TOTAL PRODUCTION	7,730,882	8,776,948	7.8	7.1	7.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	3,493,813	4,574,143	3.8	3.8	4.0
Shipped Out as 999 Silver	4,444,480	3,503,443	3.9	3.2	3.4
TOTAL DISPOSITION	7,938,293	8,077,586	7.7	7.0	7.5
RESULTING CHANGE OF THESE REFINERS' STOCKS (Production Minus Disposition)	-207,411	699,362	0.4	0.8	0.3
THESE REFINERS' STOCKS AT END OF PERIOD	805,581	1,013,992	0.8	0.9	0.4

Production and Disposition of 999 Silver by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa, Sweden, and West Germany; and some other Refiners in Europe and Asia.

	TROY OUNCES		MILLION TROY OUNCES		
	August 1987	July 1987	Jan-Aug 1987	Jan-Aug 1986	Full Year 1986
THESE REFINERS' PRODUCTION, BY SOURCE					
	MONTHLY RATE				
From Primary (ores & concentrates)	14,985,271	12,371,068	13.9	13.5	13.7
From Coins	357	134,826	0.1	0.3	0.3
From Old Scrap (used photo film & other products)	2,779,002	3,610,296	3.5	3.5	3.7
From New Scrap (in-plant clippings, waste)*	867,164	1,221,742	0.9	0.8	0.8
TOTAL PRODUCTION	18,631,794	17,337,932	18.4	18.1	18.5
DISPOSITION BY THESE REFINERS					
Converted in Plant (consumed in fabricating, etc.)	1,466,883	2,028,861	2.0	1.4	1.7
Shipped Out as 999 Silver	17,362,285	16,168,765	16.3	16.8	17.0
TOTAL DISPOSITION	18,829,168	18,197,626	18.3	18.3	18.7
RESULTING CHANGE OF THESE REFINERS' STOCKS (Production Minus Disposition)	-197,374	-859,694	0.5	-1.4	-2.8
THESE REFINERS' STOCKS AT END OF PERIOD	5,474,473	5,671,847	5.5	6.3	4.9

*PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes.

THE SILVER INSTITUTE

A WORLDWIDE ASSOCIATION OF MINERS, REFINERS, FABRICATORS AND MANUFACTURERS
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VOLUME XVII NUMBER 6

DECEMBER 1987-JANUARY 1988

SILVER EAGLE COINS DOUBLE 1986 SALES RECORD!

In 1986 the US Mint sold 5,096,000 pure silver American Eagle bullion coins, each weighing one troy ounce.

When the Mint celebrated the first birthday of the American Eagle bullion coin program, the Director of the Mint, Donna Pope, said that 8,810,000 of the silver American Eagle coins had been sold to date.

At that time, the Director of the Mint added that sales had been three times greater than anticipated. But the Eagle continued to fly...

During the first four weeks after the October 19 "Black Monday" crash of Wall Street's over priced paper securities, many investors added silver Eagle coins to their portfolios, as indicated below:

October 19-22	250,000 coins	November 2-6	400,000 coins
October 26-30	350,000 coins	November 9-16	500,000 coins

By the end of November the 1987 sales of the popular silver American Eagle bullion coin doubled those of 1986 by zooming past the 10,192,000 coin mark to 10,224,426. The month ended with cumulative 1986-1987 sales of 15,320,426 troy ounces.



MEXICO AND PERU TAKE 10,000,000 OUNCES OF SILVER OFF MARKET TO GUARANTEE SILVER CERTIFICATES

The world's largest producers of silver—Mexico and Peru—will produce 139.6 million ounces of silver in 1987. But new internal markets have already taken over 7% of their combined production out of international markets.

In September, Mexico offered and sold 4,000,000 troy ounces of newly mined silver in the form of silver certificates, or CEPLATAs. In October it sold another 3,000,000 ounces in CEPLATAs.

The CEPLATA has proven to be one of the most popular values on the Mexican stock exchange because of its favored tax treatment and because it is an excellent hedge against inflation and currency devaluations. More CEPLATA issues are planned.

The Peruvian Central Bank is reported to have put aside 3,000,000 troy ounces of silver for local sales. In November, it sold over 200,000 troy ounces of silver metal and silver certificates to the Peruvian public. No plans for further internal sales have been announced.

EXPANDING PHOTOGRAPHIC MARKET DEMANDS MORE SILVER

The photographic market continues to be the largest user of silver. In the western world, 46% of the mine production of silver (337 million troy ounces) was consumed by the photography industry.

In the U.S., there has been an 18% increase in the use of silver in photography over the past decade.

Jeffrey M. Christian of CPM Group, the international precious metals statistical analysis group, predicts a 5% increase in western world use of silver for photography and a 6% increase in U.S. demand during 1988. Additionally, the "third world" represents a virtually untapped market.

Silver Used in the Four Major Film Categories

First, there are visible-light films which account for 45% of the silver that is used by the photographic industry in the production of amateur roll films, professional cut films and motion picture films that are used for portraits, sports events, landscapes, etc.

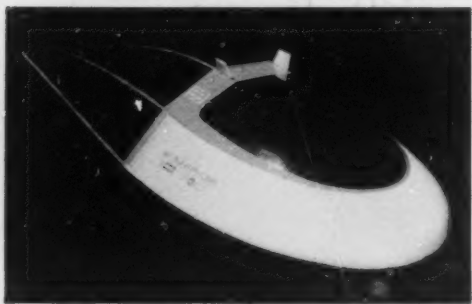
Second, some 35% of photographic silver is used in making radiographic films which are constructed to respond efficiently to X-rays.

Third, the **graphic arts films** are designed for high contrast and are responsive to laser and other high-intensity light for photo typesetting. They represent 15% of silver use.

Fourth, the remaining 5% of silver is used in the manufacture of **microfilm and microfiche**, where fine grain performance is paramount.

Future issues of *The Silver Institute Letter* will present a series of stories about trends in these different market areas.

GM SUNRAYCER USES SUN AND SILVER TO BREAK WORLD SPEED RECORDS



Until a few weeks ago, the world's speed record for a land vehicle powered solely by direct energy from the sun was 24.74 miles per hour. But this record was broken by the **sun and silver powered GM Sunraycer** (pictured) when it raced around a 5-mile circular track in Mesa, Arizona, at an average speed of 34.23 miles per hour. But the real test was yet to come.

This one-seat racing car was designed and built by GM Hughes Electronics Corp. for competition in one race—the **Pentax World Solar Challenge**—1,950 miles

from the top of the Australian continent to the bottom.

On November 1, the GM Sunraycer left Darwin. For the next five days, a 90-foot solar array of 7,200 silver-connected solar cells assured this 19.7-foot long, 360-pound racing car of a reliable flow of 1,000 watts of power.

Silver-coated switch contacts channeled the current from the solar cells to the 68 silver-zinc high performance storage batteries, containing 15 pounds of silver, which stored and supplied the car with ample power during periods of reduced sunlight, acceleration and hill-climbing.

In addition, **silver switches and relays carried current to the 2hp electric motor, enabling the GM Sunraycer to average a record-breaking 43.5 miles per hour over a wide range of extreme climate, terrain and road conditions between Darwin and Adelaide.** It arrived at the finish line some 600 miles ahead of 24 other solar-powered racing cars from seven different countries.

ONLY 100 MAY OWN THE "END OF THE RAINBOW"

In an effort to symbolize the search for new opportunities in the wild frontier country of the American West, the world renowned sculptor, Lorenzo Ghiglieri, created "End of the Rainbow," a **99.9% pure silver, 450 troy ounce statue of a Gold Rush prospector and his silver burro** at the moment of finding 1/10 ounce of "panners gold" from California streams in his silver pan.

This statue, measuring 10 inches in height and 17 inches in length, was produced by **The Maiden Foundry**, 16600 S.E. 362nd, Sandy, OR 97055, in October 1987 in a limited edition of 100. It is priced at \$15,750 dollars. For additional information, please call (800) 422-8852.



SILVER ATHENIAN DECADRACHM SELLS FOR \$600,000!

A silver Athenian decadrachm coin, containing about 1.4 troy ounces of silver, was sold for \$600,000 to an anonymous businessman on November 5, 1987, by Numismatic Fine Arts, 10100 Santa Monica Blvd., Los Angeles, California 90067, acting on behalf of the Athena Fund, a Merrill Lynch limited partnership fund.

The silver decadrachm shows the goddess Athena and her owl. It weighs about 1.4 troy ounces (42.94 grams) with 35mm diameter.



The story of this silver coin starts in 465 B.C. at a time when top commanders of the Athenian army received large legal tender silver coins commemorating their victories—Athenian decadrachms. These coins were made, appropriately enough, from melted silver spoils of war.

In those ancient times, Athenian silver coinage was the world trade currency, and of this currency the decadrachms were equal in value to ten silver drachms, making them the highest value coins of the time.